

This report was prepared by: Town of Hampstead 1034 S. Carroll Street Hampstead, MD 21074

Introduction

Once again we are proud to present our annual water quality report. This report covers all testing performed between January 1, 2009 and December 31, 2009. The events of the past few years have presented many of us with challenges. In spite of this we have maintained our high standards in an effort to continue delivering the best quality drinking water possible. There may be other hurdles in the future but we will always stand behind the drinking water we work diligently to provide. Our municipal water meets all Federal and State requirements.

We encourage you to share your thoughts with us on the information contained in this report. Should you have any questions, we are available to assist you.

For more information about this report, or for any questions relating to your drinking water, please call Roger Steger, Water Department Superintendent or Kevin Hann, Asst. Superintendent, at (410) 239-6659. You can reach by email at hampwork@comcast.net.

Community Participation

You are invited to participate in our Mayor and Council meetings and voice your concerns about your drinking water. We meet the 2nd Tuesday of each month beginning at 7:30 p.m. at Town Hall, 1034 S. Carroll St, Hampstead, MD.

Where Does My Water Come From?

Our water source is the Wissahickon aquifer, which lies about 300 feet below the earth's surface. An aquifer is an underground river that we tap by drilling wells and pumping the water to the surface for distribution. The 300 feet of earth between surface sources of contamination and this underground river help to purify water. The aquifer is a natural source of quality water, naturally replenished by rainfall. From a system of fifteen deep wells, water moves through our treatment facilities and storage towers to your homes and businesses. Combined, our treatment facilities provide roughly 150 million gallons of clean drinking water every year.

Substances That Could Be in Water

To ensure that tap water is safe to drink, U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it can acquire naturally occurring minerals, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include: Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems; Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses about 100 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet; twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to www.h2oconserve.org or visit www.waterfootprint.org to see how the water footprints of other nations compare.

Source Water Assessment

The Maryland Department of the Environment's Water Supply Program has conducted a Source Water Assessment for the Town of Hampstead. The required components of this report as described in Maryland's Source Water Assessment Plan (SWAP) are: 1) delineation of an area that contributes water to the source, 2) identification of potential sources of contamination, and 3) determination of the susceptibility of the water supply to contamination.

The system currently uses fifteen wells to obtain its drinking water. Potential sources of contamination within the assessment area were identified based on site visits, database reviews and land use maps. Well information and water quality data were also reviewed.

The susceptibility analysis for Hampstead's water supply is based on a review of the water quality data, potential sources of contamination, aquifer characteristics and well integrity. It was determined that all of Hampstead's wells are susceptible to contamination by nitrates, volatile organic compounds, synthetic organic compounds, and radionuclides, but not to other inorganic compounds. It was also determined that Hampstead's wells are not susceptible to protozoans but Well Nos. 19, 21, 23, and 24 are susceptible to total coliform.

Additional Information

While we're trying to condense this report to cut costs, we do think it's important to update you on some ongoing projects. We have successfully installed manganese filtration equipment in Pump House 16 (Westwood Park, Section 2). This well is back online. The engineering on our planned "Super Pump House" is nearly complete. We expect construction will begin this year. The Carroll County Industrial Development Authority conveyed the deeds to Wells 20 and 21 to the Town. Those wells are out of service due to high nitrate levels, but will be reconnected to the Town's water system through the Super Pump House.

The most controversial undertaking related to the water system is the eminent domain case involving the Oakmont Green Golf Course. In December, the court decided in favor of the Town on the issue of public necessity. The court also set aside the verdict of \$2.89 million and awarded the Town a new trial. Information on the Oakmont Green case is available on the Town's web site.

Nitrate in Drinking Water

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Lead and Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or www.epa.gov/safewater/hotline/.

Radon

Radon is a radioactive gas that occurs naturally in some ground water. It may pose a health risk when the gas is released from water into air, as occurs during showering, bathing, or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. Radon is released into homes and ground water from soil. Inhalation of radon gas has been linked to lung cancer, however, the effects of radon ingested in drinking water are not yet clear. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information on how to have your home tested, call (800) SOS-RADON. Radon has been detected at 3295 PCi/L.

Information on the Internet

The U.S. EPA Office of Water (www.epa.gov/watrhome) and the Centers for Disease Control and Prevention (www.cdc.gov) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state allows us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES									
SUBSTANCE (UNIT OF MEASURE)		YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE	
Alpha Emitters (pCi/	L)	2008	15	0	6.5	6.5-6.5	No	Erosion of natural deposits	
Barium (ppm)		2009	2	2	.078	.048078	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	
Beta/Photon Emitters (pCi/L)		2008	50	0	7.3	7.3–7.3	No	Decay of natural and man-made deposits	
Chromium (ppb)		2009	100	100	1	1–5	No	Discharge from steel and pulp mills; Erosion of natural deposits	
Mercury [inorganic] (ppb)		2009	2	2	0.9	0.2-0.9	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland	
Nitrate (ppm)		2009	10	10	8.1	3.5-8.1	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	
Pentachlorophenol (ppb)		2007	1	0	.02	<.0102	No	Discharge from wood preserving factories	
Tap water samples were collected for lead and copper analyses from sample sites throughout the community									
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLE		MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE A TOTAL SIT		ION TYPICA	AL SOURCE	
Copper (ppm)	2009	1.3	1.3	0.263	0/0	No	Corro	sion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	
Lead (ppb)	2009	15	0	3	0/0	No	Corro	sion of household plumbing systems; Erosion of natural deposits	
UNREGULATED SUBSTANCES									
SUBSTANCE (UNIT OF MEASURE)			YEAR SAMPLED	AMOUN DETECTE			AL SOURCE		
Chloroform (ppb)	Chloroform (ppb)		2009	.6	.5–.0	6 By-pr	By-product of drinking water chlorination.		
Methyl Tert Butyl Ether (ppb)			2009	1.1	.5–1.	1 Leaki	Leaking underground fuel tanks.		
Nickel (ppm)			2009	.056	.0020	.002–.056 Erosion		of natural deposits or leaching.	
Radon	Radon			3295	362–32	295 Erosio	Erosion of natural deposits.		

The MCL for beta particles is 4 mrem/year. U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial

contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.